

What is Claimed is:

1. An ophthalmologic characteristic measuring apparatus comprising:

a first light source for emitting light rays having a first wavelength;

a first illuminating optical system for illuminating convergently a portion near the center of curvature of the cornea of an eye to be examined with first illuminating light rays emitted from said first light source;

a first receiving optical system for receiving the first illuminating light rays reflected back from the cornea of the eye;

a first converting member for converting the reflected light rays into at least seventeen beams;

a first light receiving unit for receiving a plurality of light beams converted by said first converting member;

a second light source for emitting light rays having a second wavelength;

a second illuminating optical system for projecting an index having a specific pattern on the cornea of the eye with second illuminating light rays emitted from said second light source;

a second light receiving optical system for

09490831 44233

receiving light rays reflected back from the cornea of the eye;

a second light receiving unit for receiving the second illuminating light rays from said second light receiving optical system; and

an arithmetic unit for determining the shape of the cornea near the center of the eye on the basis of an inclination angle of the light rays obtained by said first light receiving unit and determining the shape of the cornea at the periphery of the eye on the basis of a position of said second light receiving unit, at which position said second light receiving unit receives the second illuminating light rays.

2. An ophthalmologic characteristic measuring apparatus according to claim 1, wherein said second illuminating optical system is configured to project a Placido's disc composed of a plurality of concentric rings as said index having the specific pattern, and said second light receiving optical system includes an objective lens with a telecentric diaphragm arranged at a focal point of said objective lens on the objective side.

3. An ophthalmologic characteristic measuring apparatus according to claim 1 or 2, wherein a first illumination region in the vicinity of the cornea of the eye, from which region the first illuminating light rays

are reflected and received by said first light receiving optical system is adjacent or overlapped to a second illumination region in the vicinity of the cornea of the eye, from which region the second illuminating light rays are reflected and received by said second light receiving optical system.

4. An ophthalmologic characteristic measuring apparatus according to any one of claims 1 to 3, further comprising:

a third light source for emitting light rays having a third wavelength different from the first and second wavelengths;

a third illuminating optical system for illuminating a minute region on the retina of the eye with light rays emitted from said third light source;

a third light receiving optical system for receiving light rays reflected back from the retina of the eye;

a second converting member for converting the reflected light rays into at least seventeen beams; and

a third light receiving unit for receiving a plurality of light rays converted by said second converting members;

wherein said arithmetic unit determines optical characteristics of the eye on the basis of an inclination angle of the light rays obtained by said third light

receiving unit.

09490834 44298

42